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ASSOCIATION DIETARY ASSESSMENT TOOLS WITH ANTHROPOMETRIC MEASUREMENTS IN MAINTENANCE HEMODIALYSIS PATIENTS UNIVERSITAS GADJAH MADA HOSPITAL - INDONESIA

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Objectives: Malnutrition is a serious nutritional problem that often occurs in maintenance hemodialysis (MHD) patients caused by inadequate energy and protein intake. This study aimed to determine the association between Brief Food Frequency Questionnaire (BFFQ) and 24h Food Recall (FR) with anthropometry assessment (Body Mass Index (BMI) and Mid Upper Arm Circumference (MUAC)) among MHD patients

Methods: This study was an observational study with cross-sectional study design. Data were collected from 70 hemodialysis patients in Universitas Gadjah Mada Hospital. Participants were assessed using Food Recall and BFFQ (inadequate if energy <30 kcal/IBW and protein <1.1g/kg/IBW) and anthropometry assessment (malnutrition if BMI <23 kg/m² and MUAC<23.5 cm).

Results: According to BMI and MUAC, subject with malnutrition status which respectively 62.9% and 34.3%. Dietary assessment using BFFQ had a higher mean energy intake compare to FR with and had no mean protein intake difference between BFFQ and FR based on BMI and MUAC. Correlation Test using Rank Spearman showed that there was no significant correlation between dietary assessment tools (BFFQ and FR) and anthropometry assessment (BMI and MUAC).

Conclusions: From this study, it can be known that MHD patients with low BMI and MUAC had a tendency to have lower energy and protein intake.

Table 1. Mean energy and protein intake difference in anthropometry measurement

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Parameters	Mean ± SD							
	Recall				BFFQ			
	Energy	p	Protein	p	Energy	p	Protein	p
BMI (kg/m²)								
<23	17.8±8.9	0.633*	0.6±0.3	0.601*	28.3±8.4	0.279*	0.7±0.3	0.618*
>23	18.5±9.1		0.6±0.3		31.4±11.3		0.7±0.3	
MUAC (cm)								
<23.5	18.9±9.5	0.674*	0.7±0.4	0.931*	28.3±7.3	0.939*	0.7±0.3	0.843*
>23.5	18.4±9.0		0.6±0.3		30.0±10.6		0.7±0.3	

*Significance test using Mann Whitney U Test with p<0.05

Table 2. Relationship between dietary assessment tools and anthropometry measurements

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	Food Recall				BFFQ			
	Energy		Protein		Energy		Protein	
	p	r	p	r	p	r	p	r
BMI	0.869	0.2	0.626	-0.059	0.373	0.108	0.223	0.148
MUAC	0.417	0.098	0.212	-0.150	0.823	-0.027	0.499	-0.082

*Significance test using Rank Spearman with p<0.05